ELM CREEK NEWS

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U. S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE

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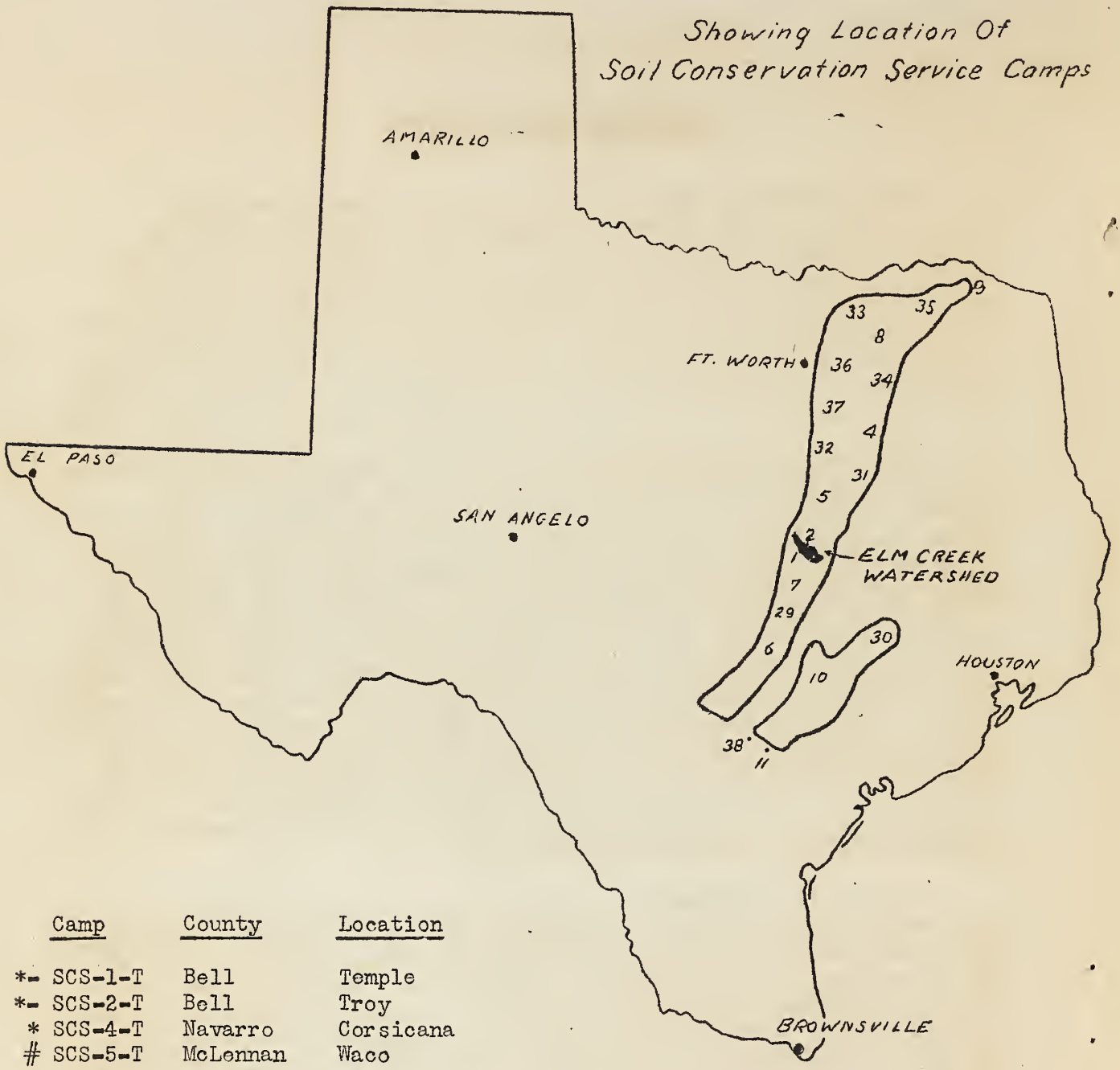
THE SECOND BLADE OF GRASS

When man first ceased to hunt his meat and instead captured a few animals to be kept alive and brought into a domestic state for use as a continual source of meat, he made his first step up from the level of savagery. When man realized the relationship between the soil and the seed of the plants he found good for food, and set about to create for himself a controlled food supply, he began his long, steady climb toward civilization. With the creation of wealth and the acquisition of property came the need for the code of morals and ethics which has resulted in the development of hope and freedom in human life.

Man's ascent has been rapid and his use of every available resource has been miraculous in its thoroughness, and the surface of man's potential power has not even been scratched by his efforts. But, in his continual attempt, in every enterprise, to "grow two blades of grass where one grew before" he has looked more upon that "second blade of grass" and less upon the source from which it sprang. The element of conservation implied in the ancient maxim has been lost in the "dust" of the speed of progress. There is nothing new under the sun. That which is called destroyed has in reality changed form only. That which changes form slowly may reverse its action quickly, and vice versa. The resources of this earth, at the disposal of man in magnitude beyond his conception, have been formed through periods of time in which years are as but the briefest of brief moments. If consumed, these supplies must again go through the eons of time for regeneration and development, but, if conserved for use, will contribute to the completion of the perfection of civilization and continue indefinitely to do so.

It is not the production of wealth beyond the needs of man which will bring about his complete happiness, for wealth ceases to exist when man's need for it stops. Certainly waste can but accomplish ruin. On the other hand, if man continues to produce that which is needed in the abundance desired, with plenty for all; if he creates always new uses and new wants, and, therefore new wealth; if he keeps on conserving his resource to the utmost of its utility; if he grows not only two blades of grass upon the spot where but one grew before, but works and plans to preserve and use that spot over and over for a bigger and more complete product; then will man secure the balance in living for which he has fought so long. Conservation must replace exploitation. Utilization must be substituted for destruction. The greatest stride made by man toward the heights of perfect living has been made in the twentieth century realization of this fact and contribution to its reality.

THE BLACKLAND PRAIRIES OF TEXAS



	Camp	County	Location
*-	SCS-1-T	Bell	Temple
*-	SCS-2-T	Bell	Troy
*	SCS-4-T	Navarro	Corsicana
#	SCS-5-T	McLennan	Waco
	SCS-6-T	Travis	Pflugerville
	SCS-7-T	Bell	Bartlett
	SCS-8-T	Hunt	Wolfe City
#	SCS-9-T	Red River	Bogata
*#	SCS-10-T	Fayette	Schulenburg
	SCS-11-T	Karnes	Kenedy
-	SCS-29-T	Williamson	Taylor
-	SCS-30-T	Washington	Brenham
-	SCS-31-T	Limestone	Coolidge
-	SCS-32-T	Hill	Hillsboro
-	SCS-33-T	Grayson	Sherman
-	SCS-34-T	Kaufman	Kaufman
-	SCS-35-T	Delta	Cooper
-	SCS-36-T	Dallas	Mesquite
-	SCS-37-T	Ellis	Waxahachie
	SCS-38-T	Wilson	Floresville

\- Old camps
\# Negro camps
* Veteran camps

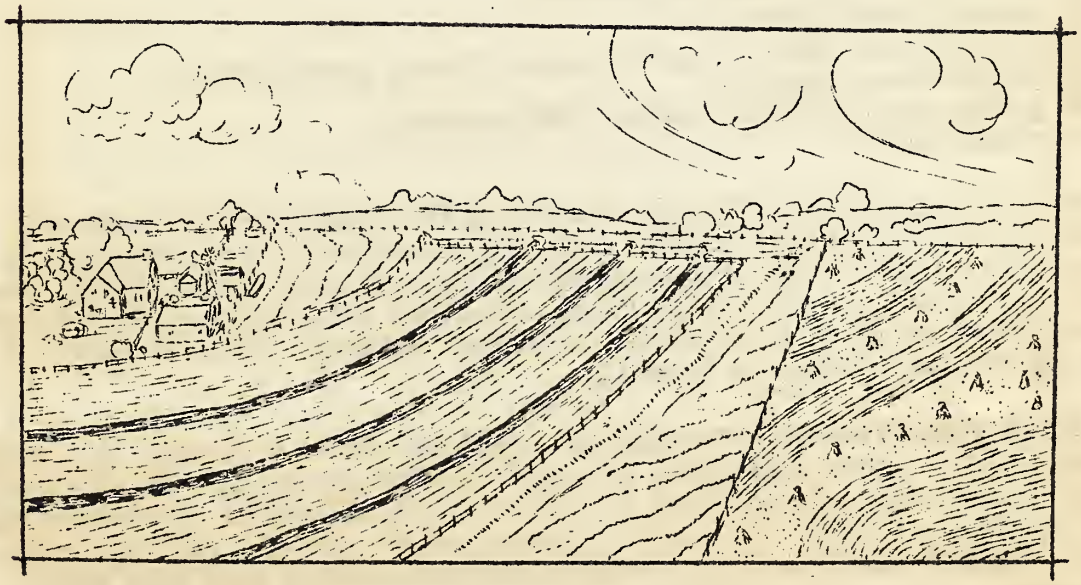
CCC CAMPS FOR EROSION CONTROL

The interest of a wise and benevolent Government in the preservation of its soil and in the welfare of those whose living comes from the soil is evidenced by the establishment of the most complete soil conservation program in history - more powerful and more efficient than that of any country at any time.

Around September 1st a total of twenty erosion control camps will be in operation in the Blackland belt of Texas (see map). The eleven old camps and nine new camps have been established at strategic locations easily accessible to every farmer of the Blackland. Each camp, with the exception of those attached to projects, will work on farms within approximately twenty miles of the camp itself, or an area of over 800,000 acres for each camp. Within this area, the farms worked on will be chosen according to the willingness of the ffarmers to cooperate in the work and according to the location of the farm. Each farm, or group of farms, will be considered a project in itself, of practical value to the owner and of demonstrational and educational value to the community.

The barracks, technical offices, garages, etc., of the new camps are completed and work will start in about two weeks. Each camp will have an enrollment of around 200 men. An average of about 150 of these men will be available for work in the field. The agronomists and engineers attached to each camp will be in charge of all work done on farms, and will receive their instructions from the regional or state office.

Thirteen camps under a similar set-up will be established in the East Texas region with headquarters at Lindale, Texas, and five camps in the Panhandle region, with headquarters at Dalhart, Texas.



SELLING YOUR FEED IN AN EGG SHELL

Practically all farmers in this section have greater than normal supplies of corn, maize, hay and bundle feeds on their farms as the harvest season nears completion. To properly utilize these feeds so as to realize the maximum returns is a problem that should be given careful thought. While roughages may be consumed by work stock and cattle in some larger quantities than usual, the returns probably will prove greatest this season when these are fed to good beef-type animals.

The decrease in the number of hogs on farms indicates that the chance for using more concentrate feeds to this class of livestock lies chiefly in the better finishing of the animals sold or slaughtered during the winter and spring.

With the continued favorable outlook for good egg prices, probably the greatest opportunity for added profits from a seemingly small portion of the large stores of corn and maize, is through the small flocks of hens and young pullets. A somewhat larger than normal crop of pullets is in prospect for this season. To reap the highest profit from these fowls during the season of highest prices for eggs, the grain feeds must be supplemented with feeds furnishing the elements contained in the egg. One of the greatly needed elements is protein, which is contained in such feeds as skim milk, cottonseed meal, and meat scraps.

By actual test it has been proven that average farm flocks will lay from 1/4 to 1/3 more eggs when fed a ration containing the necessary protein as compared to an all-grain ration such as maize, hegari, corn, etc. With a flock of 75 hens this means a difference of more than a dozen eggs per day, which at even the present price of eggs is a very significant increase. During the winter season the advantage is usually some greater.

The following laying ration is recommended by extension poultry specialists at Texas A. & M. College and can be easily mixed at home from largely home-grown feeds:

100 pounds corn or grain sorghum meal
100 pounds ground oats
100 pounds wheat bran) or 200 pounds finely ground wheat
100 pounds wheat shorts)
100 pounds meat and bone scraps (50% protein)
5 pounds salt

This ration is designed to be fed along with the regular grain feeds and should be kept before the birds in open hoppers, constructed to prevent waste. If oats are not available on the farm, substitution of an additional 100 pounds of corn meal can be made. These ingredients should be well mixed by pouring together on a good floor or in a wagon bed, and then "cutting" back and forth at least three times with a scoop or shovel.

Where large quantities of skim milk are available for the flocks, the amount of meat scraps in the above ration may be reduced. One gallon of milk fed daily to 70-75 hens and pullets should serve to replace about 25 pounds of meat scraps in the total mixture, leaving the amount required as 75 pounds. Meat and bone scraps can be secured from most large feed stores and usually cost more than cottonseed meal.

Clean, sharp grit and crushed oyster shell or limestone should be provided for the flock to aid in the thorough digestion of food and to supply material for the forming of strong, smooth egg shells.

Both pullets and hens should be well fed during the next few weeks in order to get them in condition for the season of high-priced winter egg production. The capacity for producing eggs depends largely upon the development and physical condition of the body and the quality of the ration fed. Regular clean-ups and rigid sanitation about the poultry house and yards will usually add to poultry profits. Fowls roosting in trees or otherwise exposed through the rough winter weather cannot be expected to produce many eggs.

If further information is desired on poultry management or feeding, one should contact the county agent, or write the Extension Service, A. & M. College of Texas, College Station, Texas, for publications on whatever subject desired.

Records kept for the Soil Conservation Service by the following farmers indicated profitable returns from their poultry for the period January 1 to July 1, 1935.

Mr. W. A. Zabcik, Zabcikville

Mr. Martin Roessler, Jr., Westphalia

Mr. F. C. Ranly, Wilson School

Mr. A. C. Blaschke, Wilson School

Mr. W.M. Falkner, Wilson School

Mr. W. J. Baletka, Meeks

Mr. W. E. Marchak, Leedale

Mr. W. M. Hudson, Heidenheimer

Mr. R. T. Isom, Eddy

Mr. W. Maruna, Doubleheader

Mr. Ben Roessler, Oenaville

Mr. Alois Fuchs, Westphalia

A COOPERATOR SAYS:

"I am a farmer. My father, my brothers and my sons are farmers. When I was grown I farmed because I had been trained to farm, because I knew farming better than any other way of making a living. I farm now when I am middle-aged because I love working the land. I would be nothing but a farmer.

"I own my farm. I like the feeling of independence my farm gives me. No man is my boss. I like the smell of my rich, warm land and the rustle of the waving green crops it grows. I am proud of the richness and strength of my land, and proud of the way I guard and preserve it.

"I take care of my land. I can leave my family nothing when I die except the farm. But it will be as good then as it is now, and as good always if they take care of it. I have learned how and have taught my sons how to farm safely. A man cannot make land, but he can easily destroy it.

"I like the idea of keeping my own soil on my own farm. I am glad that soil can be nailed down where it belongs and made to stay there. I like, besides, this new way of farming that I have been taught. I like to go out in the rain and watch my terraces take the extra water slowly and safely from my land. I like to look at the green crops growing in strips curving around the hill, and to know that these strips are saving my land as well as feeding my stock. As I plow under soil-building crops I like to think of the fact that my land is made richer by doing so.

"My farm makes more, looks better than ever before, and the work is easier than it used to be. And it will stay that way. Every farmer thinks he knows how to farm. But I farm right!"

SEED CORN FOR NEXT YEAR

Good seed from a proven variety is one of the major factors influencing the production of heavy yields of corn. The severe drouth of last year caused such a shortage of seed corn this spring that many farmers were forced to plant inferior or mixed seed. If you were among these you should make arrangements with a more fortunate neighbor to allow you to select your seed corn supply for next year from his field while it is still standing.

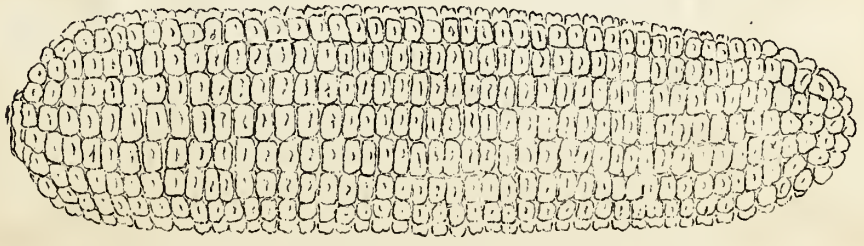
Seed corn cannot be intelligently selected from the crib. It is quite important that the stalk which produced the ear be taken into consideration. The stalk should be strong and rugged with plenty of leaves. Frail or weak slender stalks should be avoided as they easily go down upon maturity, thus permitting damage to the ear. It is also undesirable to save seed from very large or tall stalks. Of course there is considerable variation in size of stalks as well as ears desired in different varieties.

The ear should be produced at a convenient height on the stalk to harvest and should drop on maturity so water will not enter the tip and cause it to mold. Ears selected for seed should be free of disease, firm and well matured, cylindrical or somewhat tapering from butt to tip in shape, depending on the variety. The kernels should be comparatively deep, in straight rows, and firmly attached to the cob.

An adequate supply should be saved to take care of any replanting that might be necessary and it is usually profitable to save all suitable seed as a premium price can be obtained at the following planting season. Seed should be stored in a dry, well ventilated place inaccessible to rodents or livestock.

When shelling seed corn it will prove profitable to discard the kernels from the tips and butts of the ears. The kernels from the tip will produce weak inferior seedlings, if they germinate at all, and the more or less round kernels on the butts frequently clog up the holes in the planter plate, causing uneven stands.

For detailed information on the selection of seed corn, we suggest that you contact your County Agent or vocational teacher.



SIMPLE METHOD FOR ESTIMATING YIELDS OF COTTON IN THE FIELD

1. Step off 7 yards in the row where cotton has an average stand.

2. Count the number of bolls on stalks in the 7 yards of row.

3. Multiply this number by 10. This will give the number of bolls in a row of cotton one acre long.
   For example: 210 bolls x 10 = 2100 bolls, in a row one acre long.

4. Step off 70 yards across the field and count the actual number of rows in this distance to obtain the number of rows in a square acre.

5. Multiply the number of bolls in a row one acre long, by the number of rows in a square acre. This will give the number of bolls on one acre.
   For example: 2100 bolls in a row one acre long x the number of rows on one square acre = 2100 x 70 = 147,000 bolls per acre.

6. Divide the number of bolls per acre by the number of bolls required to weigh one pound. The result will give the number of pounds of seed cotton per acre.
   For example: 147,000 divided by 100 = 1470 pounds of seed cotton per acre, at 100 bolls per pound. 147,000 divided by 80 = 1837 pounds of seed cotton per acre, at 80 bolls per pound.

7. To obtain pounds of lint per acre, multiply the pounds of seed cotton by the gin turn-out of the particular variety.
   For example: 36% gin turn-out. 1470 x 36% = 529.2 pounds of lint cotton per acre.

In order to get the estimate as accurate as possible, the bolls should be counted in 7 yards length of row in at least three different places in the field, and then take the average of the three counts.

Blackland Prairie Meadows

by

Simon E. Wolff
Soil Conservation Service

The Blackland prairie has been considered unique because of its soil which, where undisturbed and not eroded, consists of black clay soil underlain with yellow marl or chalk. The original soils were black, where slightly eroded they are lighter, and when erosion has removed all the top soil, the underlying layers are yellow or white. This black soil originally supported a dense stand and rank growth of tall grasses, to the exclusion of all trees and shrubs, except along the watercourses, where, throughout the year, there was sufficient moisture for tree seeds to germinate and grow. Away from the watercourses, where the soil was deep, the tall prairie grasses dominated. On the hills, particularly those underlain with chalk, where erosion has always been in progress, and where the soil has never been sufficiently deep to support a dense stand of the tall grasses, trees and shrubs have invaded, and are now competing with the grasses.

Owing to interference by agriculture, it is very difficult at the present time to indicate the kinds of grasses that dominated the grassland prairie in the early days. Railway right-of-ways and native unplowed meadows furnish the best evidence for dominance. The probable order of abundance (dominance) of these grasses is as follows: Little Bluestem (Andropogon scoparius), Texas Needlegrass (Stipa leucotricha), Big Bluestem (Andropogon furcatus), Side-oats Grama (Bouteloua curtipendula), and Indian Grass (Sorghastrum nutans). The native meadows still found on a small percent of the Blackland farms are composed principally of these grasses. In certain sections, particularly German and Czecho-Slovakian, perhaps as many as one-fifth of the farms have meadows ranging from two acres to twenty acres in extent. Occasionally some are larger. It is evident that some of the early settlers knew the value of hay on the farm where some livestock are kept. No doubt as late as 1920 some of these meadows were plowed up and planted to cotton and today, probably less than two percent of the Blackland prairie remains unplowed and bears its original grass cover.

Where farmers value their meadows for hay they are cut once each year, or, in wet years, twice. The first cutting is usually made during the last week in June or the first week in July. If a second cutting is made in November or late fall, it is done to place the meadow in good condition for the early summer cutting. If the summer cutting is delayed until after the middle of July, the hay has a certain amount of stemminess and is lacking in quality. This is due to the fact that the bluestems begin to produce culms or stems about the middle of July, and to the fact that the leaves become harsher and less palatable as the heat increases in intensity. A No. 1 bluestem hay consists principally of leaves.

Native meadows yield from one to two and one-half tons per acre. In most cases the hay is baled from the windrow and where the practice is to feed the hay on the farm, it is merely stacked.

The greatest problem of the owner of a meadow is weeds. Many of the old meadows are today producing inferior hay, because no attempt is being made to control weeds. Naturally, the best preventive against weeds is a 100 percent stand of grass, that is, to have a complete cover of grass. After questioning many owners of meadows, the opinion of most of them is that weeds will not give much trouble if the hay is cut only once each year and the meadow is never pastured.

Pasturing for short periods is practiced by only a few of the owners of better meadows. Overgrazing tends to kill the young plants, thereby reducing the grass cover and leaving blank spaces for weeds to thrive. Hence, in any area occupied by weeds during the growing season, especially the spring period, there is little chance for young grass plants to survive. Some farmers practice clipping the meadow in the spring to prevent such weeds as Prairie Parsley (Pleiotaenia nuttallii) and Basketflower (Contaurea americana) from seeding. This is undoubtedly a worthwhile practice. Clean tillage could easily be practiced. For the deep-rooted perennials with taproots, as the Engelmann Daisy (Engelmannia pinnatifida)and Hymennopappus sp. a sharp spade could be used; for annuals, the ordinary hoe. Consistency in clean culture will eventually reduce the weed population and increase the grass cover. A complete grass cover leaves no room for weeds to grow and produce seed because the intensive root systems of the grasses use up most of the moisture in the upper layers of soil. The individual farmer, therefore, who studies his meadow and learns to what extent it will stand cutting and pasturing is the one who, year after year, has a large crop of hay of good quality, practically free of weeds.

Making Little Bluestem Meadows in Texas

John Coufal Meadow: Inquiry shows that little is known about making little Bluestem meadows in Texas. A community in Fayette county has been seeding Little Bluestem for a number of years. The following is an account of the methods used by John Coufal who lives about 7 miles east of Fayetteville in Fayette County. His meadow is now established on Blackland on a three or four percent slope and consists of three two-acre strips, six,four and three years old. Mr. Coufal's method is to prepare the land and plant oats the usual time in the fall. As soon as the oats are drilled, he cuts his Little Bluestem high with a mower early in the morning and then, while still damp, to prevent excessive sheeding of seeds, he rakes with a dump rake. If the strip to be seeded is near the source of material the seed-material is raked on to the oat ground and scattered evenly by hand. If the seed material is distant from his oat ground, he sacks the material and spreads it by hand. No further treatment is necessary. The oats sprout and grow, hiding the strawy covering of Little Bluestem. The rains tend to beat the material into the depressions and cracks. The oats grow and are harvested in the normal way. During February or March the Bluestem seedlings sprout. By the time the oats are harvested, the grass tufts are noticeable. The oat stubble is left undisturbed to rot away naturally. By fall or before, if the weeds are bad, the meadow is clipped.

Mr. Coufal states that such a meadow up to a certain number of acres is worth much more to him than an equal number of acres of cotton for the following reasons: first, it does not wash (erode); second, it is easily and cheaply harvested and cared for; third, if in the future someone wants to plow it up, it is like new ground. He advises seeding on oat ground because the green oats and later the oat stubble protect the young Bluestem seedlings and hold the soil in place, especially when the land is sloping.

Alfred Stepan Meadow: Alfred Stepan, who has a farm near Zabcikville in eastern Bell County, has a Little Bluestem meadow which he established in the fall of 1932 on gently rolling Houston black clay. The strip is rectangular in shape and measures 2.18 acres. This strip was in oats in 1932. The oat stubble was plowed under (flat broken) in the summer and the soil harrowed and

kept clean until planting time, November 12. On November 11, Mr. Stepan went to a near-by meadow and cut and filled a number of sacks with the tops of Little Bluestem. On the morning of the 12th this hay was spread evenly by hand on the prepared land, as one would scatter clover seed. Nothing more was done until the next spring and summer, at which time the annual and perennial weeds were hoed out. The young meadow was kept free of weeds the first year. In late November, 1933, the first cutting gave 50 bales of hay, averaging 70 pounds each. This cutting was somewhat stemmy. A second cutting of 25 bales was made in late June, 1934, during a very dry period, and a dry year, while a third cutting of 63 bales was made July 10, 1935. The third cutting yielded slightly over a ton per acre and was high quality, No. 1 Bluestem hay. In a period of less than three years from seeding time, this meadow yielded 9660 pounds of pure Bluestem hay.

The present ground-cover of Mr. Stepan's meadow is estimated to be about 65 percent. A well tended native meadow will not have a ground cover of more than 80 or 85 percent.

Sefcik Meadow: Mr. Tom T. Sefcik, who lives directly south of Seaton, Bell county, is another man who has established two strips of Bluestem meadow with success. His first trial on a plot of gently rolling Blackland was seeded about October 1, 1919, on unplowed oat stubble. The seeds were obtained from the Santa Fe railroad roadbed near Chriesman, Texas, by clipping the upper part of the stems and packing them in sacks. Later this material was scattered evenly over the oat stubble. No further treatment was given. A good stand of grass was obtained and in July, 1921, 50 bales, averaging 70 pounds each, were cut from this 2 acre strip.

In the fall of 1933, a narrow strip of nearly an acre adjacent to the first strip was plowed from oats stubble and harrowed until it was in good condition. Seeds were obtained as before, but from a meadow near Oker, Bell County, and were scattered by hand. No further treatment was given. Germination occurred in February and March. The first crop was cut the middle of July, 1934, and contained some weeds. The yield was 35 bales, averaging 65 pounds each. In July, 1935, this strip produced 58 bales of fine hay. The present ground cover of this meadow is between 65 and 75 percent. In 1935, both strips yielded 162 bales.

During 1934, part of the south strip was treated with a layer of sheep manure, which, according to Mr. Sefcik, materially increased the yield. He expects additional increases in 1936 from the use of this mature.

Little Bluestem meadows have been established without difficulty by farmers in from one to three years time. Each man who was interviewed expressed the opinion that it is a comparatively easy matter to seed and make such a meadow. All were well pleased with the results obtained. Two recommended spreading the material on clean, well-harrowed soil, another on ground that had been seeded to oats, which later would act as a nurse crop and help control erosion. One man recommended that the ground be rolled after seeding in order to keep the material in place. Not one farmer suggested planting the pure seed, and one insisted that the hay was necessary to get good germination of the seed and to prevent the seed from being carried too deep into the soil All agreed that the Little Bluestem should be sown in the fall.

VALUABLE GRASSES OF THE ELM CREEK WATERSHED.

During the past month three of our important native grasses have come into bloom. They are Beard grass (Sage grass) Side-oats grama and Big Bluestem.

BEARDGRASS. Scientific name: Andropogon saccharoides. (See Figure 1.) This grass is also called Sage grass. The name Beard-grass is descriptive of the feathery, silver-colored seed-heads, which are so commonly seen along roads, fences and waste places, from May to August or even later. It is very seldom found in pastures as heavy grazing quickly kills it. It is not abundant in good meadows, as repeated mowings will also cause it to disappear. In this section it has retreated to the more secluded and protected spots. It does not form an appreciable part of our grazing resources in the Elm Creek watershed at the present time, but due to the fact that it grows on a variety of soils and may be found on almost every farm, we are trying to find methods of establishing it in new meadows. It is felt that under proper management Beard grass will find a place in our pasture program.

SIDE-OATS GRAMA. Scientific name: Bouteloua curtipendula. (See Figure No. 2) This is one of the most interesting, picturesque and widely distributed grasses in the entire United States. It is found in practically every state and may be found on plains, prairies and rocky hills from Maine and Ontario south to Maryland, Alabama, Texas, Arizona and southern California. From this it can be seen that it grows on a variety of soils and in the extremes of climatic conditions. It is very easily recognized on account of its showy appearance. The spikes are so arranged on the seed stem that they hang down loosely like tiny bells which move with every little breeze. In general the heads may be said to resemble the common "Lily of the Valley". The illustration is practically life-size. Side-oats grama is found along railroad embankments, road sides, on protected hillsides and in meadows. It never occurs in large, pure stands. This grass cannot stand heavy grazing. The principal reason for this is that it starts growth early in the spring and grows until late in the fall. It is always thus subject to heavy grazing and does not have an opportunity to re-seed or to maintain its vitality. It is an important constituent of meadows and is common in such locations in this section. On a properly grazed pasture it will furnish abundant forage but it must be planted in a mixture with other suitable grasses.

BIG BLUESTEM. Scientific name: Andropogon furcatus. This grass has a variety of names but the most common in this section is the one used here. It is also known as "Turkey Foot" and "Bluejoint", as well as "Bluejoint Turkeyfoot". These names are all very descriptive and

VALUABLE GRASSES OF THE ELM CREEK WATERSHED

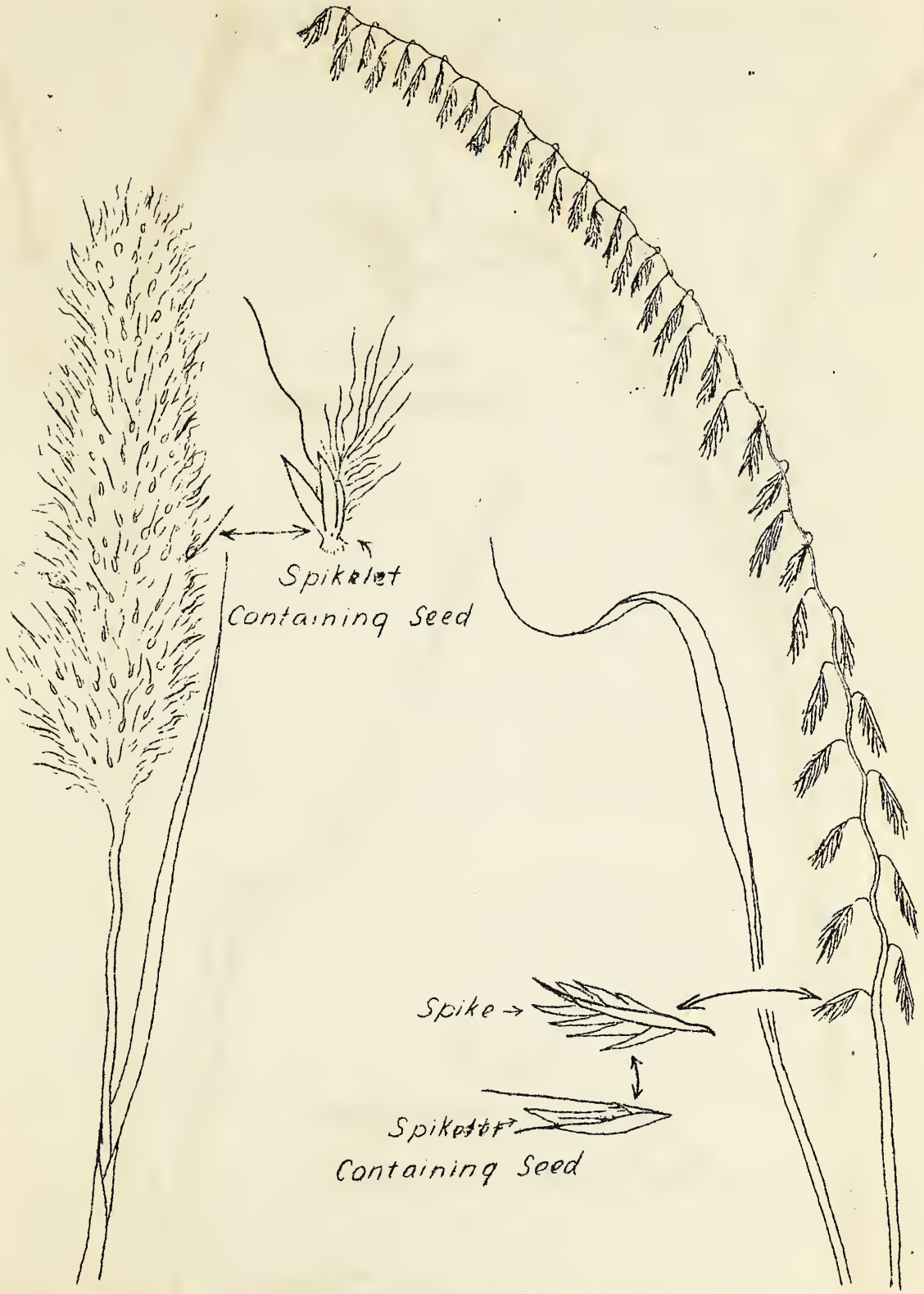


Fig. 1
BEARDGRASS
(Andropogon saccharoides)

Fig. 2
SIDE-OATS GRAMA
(Bouteloua curtipendula)

Fig. 3

BIG BLUESTEM

(Andropogon furcatus)

appropriate. In many sections the grass has a decided smoky blue color that can be seen from a great distance. This characteristic explains the name "Bluestem" or "Bluejoint". The name "Turkeyfoot" is appropriate in that the tip of the seed stalk is divided into a number of branches which bear a strong resemblance to a turkey's foot. The illustration (Figure 3) shows this clearly.

Big Bluestem is common all over the Elm Creek watershed and is found throughout the United States east of the Rocky Mountains, and from the Gulf States to and including part of Canada. Its point of greatest value is in Central Kansas where it forms about 50 percent of the stand found in the wonderful Flint Hills pasture of that State.

In the Texas Blacklands it is found in meadows, on protected places, on railroad embankments, along fence rows and roads. It grows on a variety of soils but does best in the deep heavy soils and is always a heavy producer. The leaves are long, tender and palatable while the seed stems are inclined to be coarse, particularly when nearly mature. These seed stalks may attain great size. Some specimens recently gathered close to Temple are over eight feet in height and show unusual vigor. The plant sends up new shoots from short underground stems, and these increase the size of the original plant. Seed habits of this grass are poor, as fertilization of the tiny seed-producing flowers is very uncertain. It is only under exceptional conditions that any considerable amount of seed is produced.

No doubt a very considerable portion of the open prairies in this area once supported heavy stands of Big Bluestem, but heavy grazing and cultivation have caused it to disappear in all but the most protected places, such as hay meadows, etc. There is no reason why it cannot be established on new meadows, except that seed are rarely produced and are difficult to obtain.

This is the season during which the deep cracks in the soil may prove to be of great danger to the erosion control systems on the farms in the Blackland area. Cracks extending clear across and through terraces to a depth below that of the terrace channel have been seen. The dry weather has caused the soil to shrink away from the wing-walls of permanent structures. Large cracks leading into such openings around the wing-walls will tend to concentrate water at these points, the action of which could easily undermine the entire structure.

It is very important that all cooperators make investigations along terraces and around terrace outlets to discover these cracks. A few hours spent in the field filling the cracks found around structures and across terraces might save days of labor with team and fresno repairing a very disastrous break.

Strip-cropping as an Aid in the Natural Control of the Cotton Flea Hopper

Strip-cropping, used primarily as an aid in erosion control, shows promise of being beneficial in the natural control of the cotton flea hopper.

Observations by farmers over a period of years have established in the minds of many of them that the cotton flea hopper damage has not been as much at the ends of the cotton rows or near plantings of feed crops, pastures, and meadows as it has been farther away from these areas. A careful study has been carried out during the past season, and data collected indicate this to be true. The cause may be attributed to the increase in the number of parasitic enemies of the cotton flea hopper building up early in the season in these strips, and later migrating to the nearby cotton in search of food.

Some of the most important predacious enemies observed feeding on the cotton flea hopper in the watershed this season were spiders, lacewing larva (chrysopa) and Orius). Fortunately, these enemies of the flea hopper are not injurious to any of the farm crops and anything that will aid in increasing their population will be beneficial.

Strip-cropping consists of planting strips of densely growing fibrous rooted crops between strips of row crops, along the contours of erosive slopes. This system of arranging the crops in the field does not necessarily mean the increasing or decreasing of the total number of acres of any crop planned to be grown on the farm, but the arranging of the plantings so that there will be an alternating of the different crops instead of having all of one field planted to a single crop. This will make it easier to follow out a system of crop rotation.

Thus, in a system of strip-cropping a four-fold benefit might be secured; namely, the control of erosion, an easy rotation, an adequate feed supply and, it seems to appear, a natural means of decreasing the ravages of the cotton flea hopper. It would be well to seriously consider these important facts when planning your cropping system.

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